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MARSHALL STAR

Serving the Marshall Space Flight Center Community **April 19, 2007**

NASA targets June launch for Space Shuttle Atlantis

NASA

United Space Alliance technicians Brenda Morris and Brian Williams apply foam and molds to damaged areas of Space Shuttle Atlantis' external tank, ET-124, inside the Vehicle Assembly Building at NASA's Kennedy Space Center, Fla.

From a NASA News Release

NASA is targeting June 8 as the next possible launch opportunity for Space Shuttle Atlantis' STS-117 mission to the International Space Station.

Agency management met April 10 to review progress in repairing insulating foam on the shuttle's external fuel tank, which was damaged during a sudden hail storm Feb. 26 at NASA's Kennedy Space Center, Fla. That damage required engineers to repair approximately 2,660 sites on the tank.

The meeting also included an assessment of using the repaired external tank for the STS-117 mission versus swapping to one that arrived earlier this month from the manufacturing plant in New Orleans. Managers decided to finish repairs to Atlantis' current tank and use it for STS-117. The tank that arrived April 6 will be prepared for space shuttle Endeavour's STS-118 mission to the space station, which now is targeted for launch in August.

See Launch on page 3

All-hands meeting at Marshall with NASA Administrator, Deputy Administrator scheduled for April 26

NASA Administrator Michael Griffin and Deputy Administrator Shana Dale will join Marshall Center Director David King in an all-hands meeting with Marshall team members Thursday, April 26, beginning at 10:30 a.m. in Activities Building 4316. Employees will have the opportunity to ask questions.

Bus transportation to the all-hands will be available. The event will be aired on Marshall TV and Desktop TV. All center employees — civil service and on-site contractors — are encouraged to attend. More information will be available on "Inside Marshall."

Michael Griffin

Shana Dale

Students brave wet weather and simulated lunar terrain to compete in NASA's 14th annual Great Moonbuggy Race

By Sherrie Super

Braving wet weather and rough terrain, a total of 47 high school and college teams participated in NASA's 14th annual Great Moonbuggy Race at the U.S. Space & Rocket Center on April 13-14.

On Friday, the Huntsville Center for Technology was named champion of the high school division. On Saturday, the Rochester Institute of Technology team of Rochester, N.Y., rumbled to victory in the college division, overcoming not only the simulated lunar terrain, but wet, stormy weather that interrupted the race several times throughout the day.

Sponsored by Northrop Grumman Corp., NASA's Great Moonbuggy Race is inspired by the original lunar rover that was designed by engineers at the Marshall Center. The rover transported astronauts across the surface of the moon during the final three Apollo missions in the early 1970s. The Marshall engineers were tasked with designing and building a compact, light, flexible and durable vehicle for this purpose.

Students faced some of the same challenges while preparing for their race across a simulated lunar surface, complete with man-made craters, rocks, lava ridges, inclines and lunar soil.

"For these teams, the challenge began long before race day," said Frank Six, university affairs officer with the Marshall Center's Academic Affairs Office. "For months, they've been building and fine-tuning their vehicles, along with their skills in math, science and engineering. With the education and experience they've gained through this competition, they may be inspired to someday participate in other NASA ventures, such as returning to the moon, reaching Mars and exploring destinations beyond."

"When it comes to learning, there's no substitute for real-world challenges," said Doug Young, vice president of Space Exploration Systems for Northrop Grumman's Integrated Systems sector.

David Higginbotham/MSFC

The Rochester Institute of Technology team from Rochester, N.Y., rumbles to victory in the college division.

"Through this event, the students were able to take what they've learned in the classroom, add their fresh ideas and come up with new solutions to classic engineering problems. How do you make something better, stronger and best able to accomplish your desired task? It's not easy, but these students rose to the challenge."

The first Great Moonbuggy Race was run in 1994, commemorating the 25th anniversary of the Apollo 11 lunar landing. Eight college teams participated that first year, and the race was expanded to include high school teams in 1996.

During Friday's high school competition, the Huntsville Center for Technology team finished the course in three minutes and 34 seconds — 10 seconds ahead of the second-place team, also from the Huntsville Center for Technology. Lafayette County C-1 in Higginsville, Mo., finished in third place and also won a special development design award.

During Saturday's college competition, the Rochester Institute of Technology team finished the course in four minutes and 38 seconds — nine seconds ahead of the second-place team from the University of Puerto Rico in Humacao. Pittsburg State University of Pittsburg, Kan., finished in third place.

Many volunteers from both the Marshall Center and the space industry ensured the success of the event. This is the second year Northrop Grumman Corp. has sponsored the Great Moonbuggy Race. Other contributors included the American Institute of Aeronautics and Astronautics, ATK Launch Systems Inc., CBS affiliate WHNT Channel 19 of Huntsville, Jacobs Technology, Morgan Research Corp., Science Applications International Corp., the Tennessee Valley Chapter of the System Safety Society Inc. and the United Space Alliance, LLC.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

The team from the Huntsville Center for Technology braves rough terrain to win the high school division of NASA's 14th annual Great Moonbuggy Race.

Marshall-led science instruments get first test on space station

A new science instrument, developed by Marshall Center researchers and their industry partners, got its first practical test in orbit March 31.

NASA flight engineer Sunita "Suni" Williams tested the Lab-On-a-Chip Application Development Portable Test System, or LOCAD-PTS, on board the International Space Station. The hand-portable system is an innovative, portable bacteria detection kit small enough to fit into a compact ice cooler. Williams conducted the first practical tests of the hardware in space — swabbing surfaces inside the station, injecting the samples into tiny plastic cartridges housed in the instrument, logging the information on her laptop computer and making it available for downloading to scientists on console in Marshall's Payload Operations Integration Center.

"The tests were the first in a series of five planned experiments in coming months," said Marshall engineer Tony Lyons, who manages the LOCAD-PTS project at Marshall. Eventually, the experiments will permit station crew to test samples themselves on the spot, using the hand-held LOCAD-PTS reader.

"It was a very successful first test of the instrument," Lyons said. "It made for an interesting evening on station and here at Marshall." Now, he noted, the team is concentrating on preparing additional cartridges and other hardware for the kit, which are expected to be carried to the station by early 2008.

NASA

Astronaut Sunita "Suni" Williams, Expedition 14 flight engineer on the International Space Station, conducts sample testing using the Lab-On-a-Chip Application Development Portable Test System, or LOCAD-PTS. Williams tested the hand-portable bacteria detection kit March 31 on the station.

Emmett Given/MSFC

Key members of the Lab-On-a-Chip Application Development Portable Test System team, seated on console at the Payload Operations Integration Center at the Marshall Center, include, from right, principal investigator Dr. Jake Maule of the Carnegie Institution of Washington; Marshall Center scientist Dr. Lisa Monaco of Jacobs Sverdrup in Huntsville; and operations lead Dan Gunter of Marshall's Engineering Directorate.

Together with their partners at Charles River Laboratories of Wilmington, Mass., and the Carnegie Institution of Washington, Lyons' team hopes to build prototypes of advanced versions of the LOCAD-PTS kit, expanding its ability to quickly sample and assess biological organisms in the space environment, and perhaps eventually enable on-site medical analyses to assess and help maintain astronauts' health.

"We'll continue to develop this technology for use as a valuable, multipurpose tool for future expeditions," Lyons said.

Williams' Saturday evening experiments with LOCAD-PTS were completed during her personal time, as part of the "Saturday Science" experiment series. The experiment series is a set of volunteer science activities conducted by crew members to increase research on the orbiting science facility.

The portable test system is based on the Endosafe Portable Test System technology developed by Charles River Laboratories, in collaboration with the Carnegie Institution of Washington. It was modified for space applications by researchers at the Marshall Center.

For more information about LOCAD-PTS, visit http://exploration.nasa.gov/programs/station/LOCAD-PTS.html.

Launch

Continued from page 1

"The workforce has done an amazing job of assessing and repairing the tank so far, but the sheer volume of repairs dictates moving the launch target to June," said Space Shuttle Program Manager Wayne Hale.

June 8 is the opening of the next available launch window for Atlantis to go to the station. STS-117 Commander Rick Sturckow, pilot Lee Archambault and mission specialists Jim Reilly, Patrick Forrester, Steven Swanson and John "Danny" Olivas will continue training at NASA's Johnson Space Center, Houston. During the 11-day mission, the astronauts will work with the station crew and ground teams to install a new, girder-like truss segment, unfold a new set of solar arrays and retract one array on the starboard side of the station.

For more information about the STS-117 crew and mission, visit http://www.nasa.gov/shuttle.

Awarded for returning the shuttle to safe flight

Shuttle team receives National Air and Space Museum trophy

By Sanda Martel

NASA's STS-121 Shuttle Mission Team has been awarded the 2007 National Air and Space Museum Trophy for Current Achievement — the museum's highest honor. The award was presented at a private ceremony at the museum in Washington last month.

Wayne Hale, Space Shuttle Program manager, accepted the award on behalf of the team, which was honored for "executing a crucial mission that restored confidence in America's space shuttle and put the program back on track."

The STS-121 mission, which flew July 4-19, 2006, was the second in NASA's Return-to-Flight sequence and continued the demonstration of safety improvements that debuted on the first Return-to-Flight mission, STS-114, in 2005.

The award also recognized Hale for his exceptional leadership, expertise and perspective in making necessary changes, reinforcing core values and reinvigorating the community for renewed success, while at the same time inspiring the workforce.

Hale was cited for his conversational e-mail messages to the 16,000 people working in the shuttle program, in which he reflected on risk, personal responsibility and the core values of engineering and exploration. He affirmed that spaceflight is a difficult and dangerous enterprise but also a noble one, worthy of one's best effort. These missives from the heart of leadership were circulated throughout NASA and widely shared through the media and the Internet. He was named Space Shuttle Program manager in September 2005, after serving as deputy manager since July 2003.

Robert Lightfoot serves as Hale's deputy program manager and directs the activities of the program's Shuttle Propulsion Office at the Marshall Center. John Chapman, External Tank Project manager, represented the Marshall team at the awards ceremony in Washington.

"It was a tremendous honor to have been asked to represent the Marshall Shuttle Propulsion Team at this prestigious event," Chapman said last week as he reflected on the award ceremony. "The entire STS-121 team and their families should feel proud of the accomplishments of the STS-121 mission."

The Smithsonian award recognized the NASA team leader and thousands of engineers, technicians, analysts, flight directors, astronauts and others — the equivalent population of a small town — for rising to the challenge of returning the space shuttle to safe flight.

Eric Long, National Air and Space Museum

The STS-121 Shuttle Mission Team received the 2007 National Air and Space Museum Trophy for Current Achievement in March in Washington, D.C. Attending the awards ceremony were John Chapman, External Tank Project manager, who represented the Marshall Center team, and Wanda Sigur, Lockheed Martin Space Systems external tank vice president, who represented the contractor team that builds external tanks for NASA's Space Shuttle Program.

Established in 1985, the National Air and Space Museum trophy is presented annually to recognize outstanding achievement in scientific or technological endeavors relating to air and space technology and exploration.

For more information on the National Air and Space Museum Trophy Award, visit http://www.nasm.si.edu/events/pressroom/releaseDetail.cfm?releaseID=166.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

One NASA exhibit draws crowd at National Space Symposium

Courtesy photo

Marshall Center's Kirk Pierce, outreach coordinator supporting NASA's Exploration Systems Mission Directorate, seen at left, uses the Interactive Constellation Experience exhibit to show students how to build an Ares rocket at the National Space Symposium in Colorado Springs, Colo., April 9-12.

The Constellation Experience, part of the One NASA booth, is a hands-on, interactive tool with a touch-free screen. It provides basic information about the Ares I crew launch vehicle and Ares V cargo launch vehicle. Visitors can use this information to virtually build and launch their own Ares rocket.

Approximately 500 K-12 students and their teachers visited the One NASA booth April 11 to learn more about space exploration and NASA's

See Symposium on page 5

Obituaries

Marion F. Eastwood, 83, of Citrus Heights, Calif., died Nov. 9. He retired from the Marshall Center in 1973 as a quality assurance specialist. He is survived by his wife, Lorraine Eastwood.

Michael D. Leberman, 74, of Lacey's Spring died Feb. 2. He retired from the Marshall Center in 2004 as an engineer.

John T. Benton, 75, of Huntsville died April 3. He retired from the Marshall Center in 1989 as an aerospace engineer. He is survived by his wife, Hilde Benton.

Paul F. Cahalan, 82, of Huntsville died April 7. He retired from the Marshall Center in 1984 as a contracting officer. He is survived by his wife, Atha Cahalan.

Lee B. Malone, 84, of Athens died April 7. He retired from the Marshall Center in 1990 as an engineer. He is survived by his wife, Aline Malone.

Symposium

Continued from page 4

exploration mission to return to the moon and travel to destinations beyond. More than 1,500 attendees stopped by the NASA exhibit area during the conference.

Pierce was one of several Marshall outreach coordinators who staffed the One NASA booth in the conference exhibits hall. The booth also included the Interactive Concept of Operations exhibit, which is a hands-on simulation of a trip to the moon and back to Earth; 1:100 scale models of the Ares launch vehicles (measuring 3.2 feet for Ares I and 3.6 feet for Ares V); a prototype of an Orion Capsule, which is the spacecraft that will carry the astronaut crew to space; and lunar images. The Ares launch vehicle projects are managed by NASA's Exploration Launch Projects Office at the Marshall Center. The Orion project is managed by NASA's Johnson Space Center in Houston.

More than 7,000 conference goers and 130 exhibiting companies and organizations were expected to attend the 2007 National Space Symposium, the premier conference for space professionals from around the world. The event draws thousands of industry leaders, military and government officials, educators and space enthusiasts each year, and is the only space-related conference that integrates all sectors of space, including commercial, civil and national security. The symposium also seeks to inspire the next generation of explorers through educator liaisons.

Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Employee Ads — Submit Ad." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue is 4:30 p.m. Thursday.

Miscellaneous

John Deere riding tractor, L110, 145 hrs., 42" deck, Kohler motor, can deliver, $1,350. 527-8116

Lacrosse Neoprene waterproof boots, 12 EE width, $50. 654-1094/Byron

Men's platinum wedding band, size 10, $500. 653-4380

Set of 4 premium alloy wheels, came off 2002 Toyota Camry, 15." 506-3236

Four cemetery plots in Tri-Cities Memorial Garden, Florence, $4,000. 436-1106

X-Box 360 Premier in box, w/extra wireless control, $325. 350-4932

Go-cart, Carter Brothers, 2 seater, lights, roll bar, new tires, 6.5HP, $500. 353-6635

Several over-sized custom Turkey Callmaker's calendars for 2007, collector's items, $5 each. 572-7396

TV, 13", $20; black lacquer TV stand, $15; rose-colored drapes, $10; tall gold "octopus" lamp, $15. 464-9034

Two teen bedroom sets, cherry/maple, dresser, mirror, nightstand, desk w/book hutch. 348-2670/Madison

Akai reel-to-reel recorder, includes 25 music tapes for playing, $60. 837-6776

Kids' bunk beds, mattresses, desk chair, dresser, metal, primary colors, $300; X-Box, many games, $100. 895-5063

1-year-old treadmill, $25. 837-1774

Audiovox SH9 home dock for XM satellite radio, new, in original packaging, $25. 353-1353

Vinyl fence, four 8' sections, 4' high, 4 posts, 42" gate, all hardware. 353-4922

Siemens C61 cell phone w/manual and charger, $10. 655-6348

GE washer/dryer set, white, $350. 457-4466

2006 John Deere LT160 lawn mower, $2,100. 673-0041

Swedish memory foam mattress, new, queen size, $425. 996-5617

Oak entertainment center, corner, w/doors, 6' tall, $300. 503-6773

AKC German Shepherd puppies, 3 females, 1 male, black & tan, born 1/23/07, $500 each. 828-3373

Pool table, slate top, accessories, you pick up, $475; antique mahogany platform rocker, $185. 679-1910

Acoustic guitar amplifier, Ultrasound AG-503S2, 50 watts RMS, $350. 423-4217

A Series of Unfortunate Events books, 1-13, hardback, $80. 714-7992

Rescue Heroes Aquatic Command Center (large toy aircraft carrier, w/2 bags of accessories), $20. 325-2919

Foreman-style grill, roll around, integrated Thermos ice chest, "Grill2Go/Fire-N-Ice," new in box, $100. 233-0705

Vehicles

2004 Dodge 1500 Ram, Hemi SWB, 40K miles, $13,900. 468-9377

2000 GMC Sonoma, 4x4, 87K miles, off road and loaded, $10,000. 931-967-7307

1983 Datsun 280ZX, for restoration or parts, recently rebuilt engine, make offer. 880-2990/Nick

2003 Kia Sorento EX, blue/gray, leather, loaded, 120K miles, $8,500. 497-4116

2004 BMW 325i, 4 door, red, sunroof, parking sensor, automatic, 41K miles, new tires, warranty, $26,499. 651-0312

1994 BMW 325is, 178K miles, 5 speed, a/c, black, power locks/windows, remote entry, $4,800. 651-8355

2001 Honda Odyssey EX, granite/fern, cloth, power doors, alloy wheels, 83K miles, $11,000. 729-8089

Victory motorcycle, 92C special edition cruiser. 722-8064

1999 Oldsmobile Silhouette extended van, red, original owner, 151K miles, leather, entertainment system, $3,200. 534-5336

1992 Richard Petty Grand Prix, 162K miles, needs transmission, $950. 851-8085

1999 Mazda Miata, blue, 42K miles, 5 speed, leather, all power, $5,9000. 205-332-9298 (cell)

2003 Mercedes E500, black, tan leather, power windows and locks, new tires, 57K miles, $34,000. 527-6148

2002 Yamaha XVS1100, 9,960 miles, black & silver, $5,600. 655-9074/leaving for Afganistan

1989 Ford pick-up, V8, 8' bed, $1,800. 508-8269

1995 Cadillac Deville, loaded, $2,400; 1996 Deville, green, loaded, $3,200. 520-2802/Ron

Wanted

Single, responsible female wants Yorkshire Terrier, crate trained, young adult OK. 464-9034 after 7 p.m.

Bunk beds for boys in nice condition. 759-3009

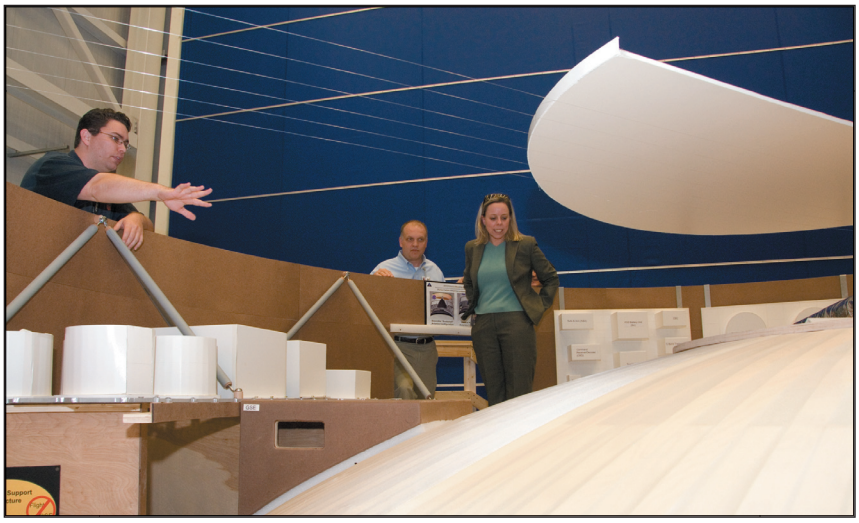
Found

Bluetooth cell phone. 544-7038 to identify/claim

Free

Five baby Guinea Pigs, black and white, two w/brown, free to good home. 881-5545

Two Dobermans, male, blue, neutered; female, red, spayed, family pets, can separate, moving. 348-2670



Emmett Given/MSFC

Legislative director for U.S. Rep. Bud Cramer visits Marshall

At right, Denise Edwards, legislative director for U.S. Rep. Bud Cramer, is briefed on the Upper Stage Instrument Unit Performance Analysis and Design Demonstrator. Chris Bramon, middle, logistics and operations manager of the Upper Stage in the Exploration Launch Projects Office, along with Chris Adams, left, Upper Stage Performance Analysis and Design Demonstrator lead designer of the Vehicle Analysis Branch in the Engineering Directorate, discuss the demonstrator's capabilities. Edwards visited the Marshall Center on April 4.

Marshall's payload operations team supports space station crew member's Boston Marathon run

NASA

NASA astronaut Suni Williams, left, became the first person to run a marathon from space April 16. An officially entrant number 14,000 in the Boston Marathon, Williams completed the 26-mile trek on a treadmill on the International Space Station 210 miles above Earth, circling the globe nearly three times in the process. Williams, who is an accomplished marathoner, has served on board the space station since December 2006 as a member of the Expedition 14 crew. To show their support for Williams' run, members of the Marshall Center's payload operations team, below, braved near-freezing temperatures April 15 to run a half-marathon relay at the Bob Jones High School track in Madison. From left, Dale Parrott, a ground training team member, and Nicole Pelfrey and Shannon Rutherford, payload communications managers, teamed with 16 other participants to complete the 13-mile run in an hour, 47 minutes and 21 seconds.

MSFC/Tim Horvath

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